

ACCESSION NR: AP4041145

8/0020/64/156/004/0789/0791

AUTHOR: Ageyev, N. V.; Glazunov, S. G.; Petrova, L. A.; Tarasenko, G. N.; Grankova, L. P.

TITLE: Dislocations in the titanium - molybdenum - iron - aluminum alloys

SOURCE: AN SSSR. Doklady*, v. 156, no. 4, 1964, 789-791, and insert facing p. 790

TOPIC TAGS: alloy dislocation, Ti Mo Fe Al, alloy, chilled alloy microstructure, etching, electromicroscopic study

ABSTRACT: By analyzing the structure of a quenched α - alloy of Ti - Mo - Fe - Al, the authors have found precipitations having the appearance of "sticks". Similar "sticks" were found earlier in quickly chilled Ti - 10% Mo alloys by T. H. Schoffield et al. (Acta Metallurgica 7, no. 6, 403, 1959) who described them as regular arrays of etch holes caused by unstable groups of dislocations which are changed during cooling into a stabler net of subgrains. X-ray diffraction patterns obtained by the present authors show no presence of a new phase such as titanium hydride. It is pointed out that dislocations which are present in all metals, become apparent only under favorable conditions of etching. Electromicroscopic study of the "sticks" has actually demonstrated that they are formed by a series of little

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ACCESSION NR: AP4041145

holes. Orig. art. has: 4 figures.

ASSOCIATION: Institut metallurgii im A. A. Baykova (Institute of Metallurgy)

SUBMITTED: 05Feb64

SUB CODE: MM

NO REF Sov: 005

ENCL: 00

OTHER: 002

Card2/2

L 44354-66 EWT(m)/EWP(t)/ETI/EWP(k) IJP(c) JD/HW/JG
ACC NR: AP6019834 (N) SOURCE CODE: UR/0370/66/000/001/0139/0148

AUTHOR: Ageyev, N. V. (Moscow); Glazunov, S. G. (Moscow); Petrova, L. A. (Moscow);
Tarasenko, G. N. (Moscow); Grankova, L. P. (Moscow)

ORG: none

TITLE: Investigation of metastable β -alloys of the Ti-Mo-Fe-Al system

SOURCE: AN SSSR. Izvestiya. Metally, no. 1, 1966, 139-148

TOPIC TAGS: phase analysis, quaternary alloy, titanium base alloy, molybdenum, iron, aluminum, metal aging, mechanical property

ABSTRACT: This is a continuation of previous investigations (Ageyev, N. V., Rogachevskaya, Z. M. Zh. neorgan. khimii, 1959, IV, vyp. 10, 2323-2328; Ageyev, N. V., Grankova, L. P., Novik, P. K. Dokl. AN SSSR, 1962, 146, no. 2, 351-354) with the difference that it deals with Ti-Mo-Fe-Al alloys which quench to the β -solid solution, i.e. have an electron concentration of more than 4.20 el/at, but contain not more than 8.5% Fe and 8% Mo as well as 2.3 and 4% Al, and hence are of greater practical interest. Ingots of these alloys were melted by using a mixture of titanium sponge, Al-Mo master alloy, pure Al and armco iron. The ingots,

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UDC: 669.295

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ACC NR: AP6019834

weighing 400 g, were lathe-turned and subsequently hot-forged in an electric furnace at 1000-1100°C into rods of 15 mm diameter and squares measuring 15x15 mm. The forged alloys were annealed at 750 and 800°C for 1 hr and water-quenched. All the alloys quenched from 750°C had the $\beta + \alpha$ phase structures, and all those quenched from 800°C, the structure of the β -solid solution, as was to be expected from their electron concentration. The forgings were milled in a milling machine and cut up into specimens for microstructural and radiographic examination as well as for tests of hardness and tensile strength. Measurements of the Vickers hardness of these alloys as a function of aging temperature (200-600°C) and time (1-100 hr) revealed that for most of the alloys hardness reaches its maximum (~500 kg/mm²) after 10-25 hr at any aging temperature within the limits considered and thereafter remains virtually constant for 100 hr. β -alloys containing 2% Al, when heated to 400-500°C, undergo decomposition with segregation of ω -phase which gets transformed into α -phase after 10 hr. β -alloys containing 3 and 4% Al undergo decomposition with segregation of α -phase. Of the alloys of Ti + 7% Mo + 6% Fe + 2, 3 and 4% Al the best mechanical properties (tensile strength 160 kg/mm², plasticity 7.0%) were displayed by the alloy with 3% Al aged at 525°C for 20 hr and subsequently cooled in air. Orig. art. has: 7 figures, 3 tables.

SUB CODE: 11, ~~12~~ 13/ SUBM DATE: 02Mar65/ ORIG REF: 005/

Card 2/2

blg

23830

18 1285

2808, 10M5, 1954

S. 020 -1 17a 00 01 01-1
PL02 P. 1.

AUTHORS

Azejev, N. V., Gorbatyuk, M. M. Moscow, USSR, 400
Petrova, L. A.

TITLE

General rules for the stabilization of the beta phase in
titanium alloys.

SERIALIZED

Akademiya Nauk SSSR, D. K. S. 1954, No. 10

TEXT: The authors describe the factors influencing the minimum critical content of alloying addition needed for stabilizing the beta phase in titanium alloys. These factors have to be ascertained in order to establish the general rules of the above stabilization. Table 1 shows these minimum concentrations for 11 stabilizers by which a monophase structure of the solid solution or metastable state is obtained at room temperature. The sequence of these elements corresponds to their activity in stabilizers. Of these factors, the position of the element in the Periodic System is of particular importance. The authors state that the position of the elements in relation to their position in the Periodic System influences the influence exerted titanium on the system. This repetition of the fact that influence exerted

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23236

Soviet Materials:

General rule for the estimation of

B164 Page

In the case of a solid solution of the element M in titanium, the solubility of the element M in the solid solution is determined by the concentration of the element M. However, the case is difficult, the reason being that the solid solution contains the elements of different valencies and therefore the concentration of the elements is determined by their valency. This is particularly true for those elements which have a valency of two. The number of valency of an element is equal to its size in atomic radius and its atomic weight, and is proportional to its concentration. Thus, the concentration of the element M is determined between the valency of the element M and the valency of the element M₂. This is the case when the element M has a valency of one. Then, the concentration of the element M is determined by the number of valency of the element M and the number of valency of the element M₂. From this fact the authors conclude that the metastable beta-phase can be obtained in titanium alloys if the valency equal number of the element M (averaging 1.5) is present. These rules were checked by the authors for certain valency Ti + Fe = 7 (Fig. 1), Ti + Fe + Cr, Ti + V + Mo, and Ti + Mo + Mn. If the valency of the element M is not equal to the valency of the element M₂, it is able to calculate the compositions of the solid solution with given the valency of the element M and the valency of the element M₂.

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S/020/61/138/00 010/024

General rules for the stabilizing . . .

310/322C

metastable diagram of the phase composition in the system Ti-Fe-V. The straight line drawn in the corner of titanium, which separates the range of the beta phase from that of the $\beta+\alpha$ -phases has been obtained by connecting the points corresponding to the critical stabilizing concentrations of the alloying elements in the binary system Ti-Fe and Ti-V. Ternary alloys having an electron concentration below 4.0 are in the range of the $\beta+\alpha$ -phases. A titanium alloy with 1.11 atom% Fe and 1.77 atom% V (electron concentration 4.18 el./at. (1)) has been proved to be such an alloy. The following alloys, however, have the structure of the beta phase: 4.31 atom% of Fe and 7.14 atom% of V (2), 7.51 atom% of Fe and 11.4 atom% of V (3) as well as that having 2.96 atom% of Fe and 11.15 atom% of V (4) whose electron concentration amounts to 4.24, 4.21, and 4.11 el./at. respectively. The above rule was also confirmed for further ternary alloys. There are 1 figure, 1 table, and 4 references: 5 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Institut metallurgii im. A. A. Baykova Akademii nauk SSSR
(Institute of Metallurgy imeni A. A. Baykov of the Academy of Sciences "SSSR")

Card 3/5

L 27511-66 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/ETT IJP(c) JD/JG/GS/JH
ACC NR: AT6012374 SOURCE CODE: UR/0000/65/000/000/0089/0091

AUTHORS: Ageyev, N. V.; Glazunov, S. G.; Petrova, L. A.; Tarasenko, G. N.; Grankova,
In. Pa.

43
BX1

ORG: none

TITLE: Investigation of alloys of the system Ti--Mo--Cr--Fe--Al
27 27 27 27 27

SOURCE: Soveshchaniye po metallokhimii, metallovedeniyu i primeneniyu titana i yego
splavov, 6th. Novyye issledovaniya titanovykh splavov (New research on titanium
alloys); trudy sovushchaniya. Moscow, Izd-vo Nauka, 1965, 89-91

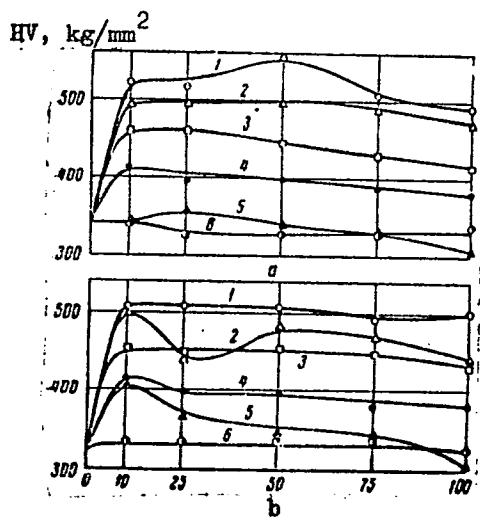
TOPIC TAGS: titanium, iron, chromium, molybdenum, aluminum, titanium alloy, metal
aging, annealing, hardness, x ray spectrum

ABSTRACT: The effect of annealing and aging on the hardness and x-ray spectra of
alloys derived from the system Ti--Mo--Cr--Fe--Al was studied. The experimental
procedure was described earlier by N. V. Ageyev, and L. A. Petrova (Dokl. AN SSSR,
1961, 138, No. 2, 359). Five different alloy compositions were studied, and the
experimental results are presented graphically (see Fig. 1). Photographs of polished
sections of the alloys annealed at different temperatures and aged for different
periods of time are presented. The presence of satellite lines in the x-ray spectro-
grams are noted, but the authors refrain from giving an explanation for their presence.
It is concluded that the alloys may prove interesting as low-alloy β -stabilizing
high-strength titanium alloys.

Card 1/2

L 27511-66

ACC NR: AT6012374



Orig. art. has: 1 table and 5 figures.

Card 2/2 Blk SUB CODE: 11/ SUBM DATE: 02Dec65/ ORIG REF: 004

L 29192-66 EWT(m)/EWP(w)/T/EWP(t)/ETI/EWP(k) IJP(c) JD/HW/JG

ACC NR: AP6016583

(A)

SOURCE CODE: UR/0129/65/000/005/0012/0014

AUTHOR: Ageyev, N. V.; Glazunov, S. G.; Petrova, L. A.; Tarasenko, G. N.; Grankova, L. P.; Shelest, A. Ye.

ORG: none

TITLE: High-temperature thermomechanical treatment of β -alloy of the Ti-Mo-Cr-Fe-Al system

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 5, 1966, 12-14

TOPIC TAGS: thermomechanical treatment, titanium alloy, titanium beta alloy, molybdenum containing alloy, iron containing alloy, aluminum containing alloy, alloy thermomechanical treatment, alloy mechanical property, alloy structure

ABSTRACT: Forged specimens of complex titanium-base alloy containing 7%Mo, 5.5%Cr, 3%Fe, and 3%Al were subjected to high-temperature thermomechanical treatment (HTMT), rolled at 850, 950, and 1050°C with a 20, 40, and 60% reduction in one pass and 80% in two passes, immediately water quenched, and then aged at 450°C for 15 and 25 hr, at 500°C for 5 and 10 hr, or at 525°C for 5 hr. HTMT increased alloy strength without affecting ductility. For example, prior to aging the tensile strength of alloy hot rolled at 950°C with a reduction of 20, 40, 60, and 80% was 96.5, 105.0, 96.7, and 99.5 kg/mm², respectively, compared with 77.3 kg/mm² for alloy quenched from the same temperature without deformation. The corresponding figures for elongation were

Cord 1/2

UDC: 295:621.771:621.735.61'74

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L 29192-66

ACC NR: AP6016583

2

16.6, 18.4, 17.7, and 18%, respectively, compared with 16.9%. The increased strength of the alloy after HTMT is explained by strain hardening and fragmentation of the β -alloy grains. Aging produced a further significant increase of strength. The best combination of strength and ductility was obtained after HTMT with 60-80% reduction at 850°C and aging at 500°C for 10 hr or 525°C for 5 hr, after which the alloy had a tensile strength of 164-177 kg/mm², an elongation of 4.5-9.0%, and a reduction of area of 8-15%. This effect of aging was found to result from the precipitation of the finely dispersed α -phase. Orig. art. has: 3 figures and 1 table. [MS]

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 008/ ATD PRESS: 5004

Cord 2/2 BLG

L 47003-66 E&P(m)/E&P(v)/E&P(j) /
ACC NR: AP6027277 (A) IJP(c) WW/RM SOURCE CODE: UR/0191/66/000/008/0023/0026

AUTHOR: Nikolayev, A. F.; Trizno, M. S.; Petrova, L. A.

ORG: none

TITLE: Adhesion of hot-cured epoxy-novolak compositions

SOURCE: Plasticheskiye massy, no. 8, 1966, 23-26

TOPIC TAGS: adhesion, epoxy plastic, thermosetting material

ABSTRACT: The paper describes a method for determining the adhesion of thermosetting resins which do not evolve volatile products and do not require the use of pressure during curing. Such resins can be used with plasticizers, fillers and various additives. The method consists in inserting a steel wire into the resin poured into a metallic mold, and after solidification, pulling the wire by means of a tensile testing machine with a variable force up to 260 kg. The adhesion of epoxy-novolak resins was found to vary with their composition; it was greatest in 6E18N-70, which had the largest proportion of epoxy resin. The maximum adhesion was obtained after 6-9 hr of curing. The optimum curing temperature was 130°C, since the reaction of epoxy groups with hydroxyl ones takes place most readily at this temperature. Stepwise heat treatment of 6E18N-60 increased the adhesion by increasing the contact between the complex branched molecules. The method by which the resin composition itself was prepared

Cord 1/2

UDC: 678.643'42'5-9:678.632'32'21]16201794

L 47003-66

ACC NR: AP6027277

also affects the adhesion. Orig. art. has: 7 figures.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 012

Card 2/2 vmb

PETROVA, L.D. (L.D.A) (Leningrad, D-L 3, ul. Saltykova-Chchecrina, 19, kv. 16)

Aseptic inflammation in the connective tissue following the
administration of urethan. Arkh.anat., glist. i embr. 46
no.4:52-62 Ad 164. (MIRA 18:5)

1. Kafedra glistologii (zav. - prof. A.G.Knerre) Leningradskogo
pediatricheskogo instituta i im. p. Instituta.

NADSON, G.G. [deceased]; VINOKUR, I.L.; PETROVA, L.D.

Hygienic evaluation of the microclimate of prefabricated houses
on the state farms in the virgin lands of Orenburg Province. Uch.
zap. Mosk. nauch.-issl. inst. san. i gig. no.6:83-84 160.

(MIRA 14:11)

1. Moskovskiy nauchno-issledovatel'skiy institut sanitarii i gigiyeny
imeni F.F.Erismana (for Vinokur). 2. Orenburgskaya oblastnaya sani-
tarno-epidemicheskaya stantsiya (for Petrova).

(ORENBURG PROVINCE—HOUSING, RURAL—HYGIENIC ASPECTS)

KUZNETSOV, K.F.; SEL'DYAKOVA, N.A., PYTROVA, L.F.

Multichannel source of pulsed power supply for transfluxor circuits.
IAd. prib. no. i; 169-174 '64. (MIRA 18,5)

"APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240520019-7

27 RUE

F

APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240520019-7"

BELOUS, A.L.; KUZNETSOV, K.F.; KUROCHKIN, S.S.; PASECHNIKOVA, I.P.;
PETROVA, L.F.

Characteristics of a set of transistorized elements of a magnetic
memory unit. Nauch.-tekhn.sbor.Gos.izd-va lit. v obl. atom. nauki i
tekhn. no.4:25-43 '62. (MIRA 1c:1C)

ACCESSION NR: AP4016585

S/0115/64/000/002/0014/0016

AUTHOR: Kushpil', V. I.; Markov, V. I.; Petrova, L. F.

TITLE: Circuit for measuring effective values at infralow frequencies

SOURCE: Izmeritel'naya tekhnika, no. 2, 1964, 14-16

TOPIC TAGS: infralow frequency, rms value, effective value, rms voltmeter, semiconductor diode rms voltmeter

ABSTRACT: Four D9Ye semiconductor diodes connected in a bridge-rectifier circuit are proposed for measuring rms voltage at infralow frequencies; an M-24 100-microamp, 720-ohm d-c voltmeter is used as an indicating instrument. Errors were determined for sinusoidal, triangular, rectangular, and saw-toothed waveshapes; d-c or a-c error was within $\pm 1.5\%$. It is stated that "the input impedance of the instrument varies with the applied voltage within 30-5.1 kohms, the lower value corresponding to the maximum measurand, 0.6 v. The

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ACCESSION NR: AP4016585

maximum input impedance of the instrument is 7,500 ohms/volt." (?? Abstracter)
Orig. art. has: 3 figures and 1 formula.

ASSOCIATION: none

SUBMITTED: 00

SUB CODE: GE

DATE ACQ: 12Mar64

ENCL: 00

NO REF Sov: 001

OTHER: 000

Card 2/2

L-34687-65 EMT(1)/EWA(h) Feb
ACCESSION NR: AT5004676

S/3128/64/000/001/0169/0174

AUTHORS: Kuznetsov, K. F.; Sel'dyakova, N. A.; Petrova, L. F.

19
84

TITLE: Multichannel pulse-supply source for transfluxor circuits

SOURCE: Yadernoye priborostroyeniye; nauchno-tehnicheskiy sbornik,
no. 1, 1964, 169-174

TOPIC TAGS: pulse generator, multichannel pulse generator, trans-
fluxor, transfluxor circuit supply

ABSTRACT: The article describes a pulse generator satisfying the following requirements: (1) The current pulse duration must exceed the transfluxor switching time, and must be variable in the range from 1 to 5 μ sec. (2) The rise time of the current pulses should be lower than the switching time of the transfluxor by 3--5 times. (3) The output impedance of the current generator must be one order of magnitude larger than the maximum value of the dynamic impedance

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ACCESSION NR: AT5004676

of the transfluxor when a switching pulse is applied to it. (4) The leading-front overshoot should not exceed the maximum pulse amplitude by more than 7%. (5) The maximum pulse amplitude must be sufficient to saturate the entire transfluxor material. A current generator satisfying these requirements makes it possible to investigate the static and dynamic characteristics of transfluxor with sufficient degree of accuracy. Such a generator is illustrated in Fig. 1 of the enclosure. Detailed descriptions are presented of the current-generator channels, of the setting units, and of some of the individual blocks making up the generator. Each of the four independent generator outputs delivers a current pulse of arbitrary polarity, with a duration that can assume values of 1, 2, 3, 4, and 5 μ sec. The pulse repetition frequency can be smoothly regulated between 10 and 30 kcs. The pulse amplitude at the output of each channel is 2 amp into a load varying from 0 to 100 ohm with accuracy $\pm 10\%$. The active duration of the leading front of the current pulse is lower than 0.1 μ sec, and the active duration of the trailing front

Card 2/4

L 34887-65

ACCESSION NR: AT5004676

of the pulse does not exceed 0.5 usec. Orig. art. has: 4 figures
and 1 table.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 01

SUB CODE: EC

NR REF SOV: 000

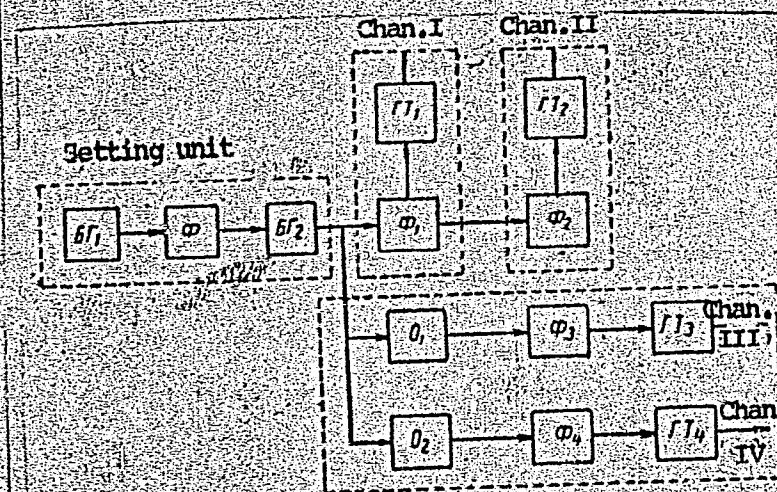
OTHER: 000

Card 3/4

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ACCESSION NR: AT5004676

ENCLOSURE: D1



IG - Current generator
BG - blocking generator
Ω - pulse shapility netw.
O - univibrator

Fig. 1. Block diagram of 4-channel current generator

Card 4/4

L 20938-66 EWT(d)/EWT(m)/EWP(t)/EWP(1) IJP(c) BB/JD/GG

ACC NR: AP6002566

SOURCE CODE: UR/0286/65/000/023/0059/0060

AUTHORS: Erglis, K. E.; Petrova, L. F.; Subbotin, V. T.

44

B

ORG: none

TITLE: Device for connecting metallic backings of magnetic films to a metallic base. Class 42, No. 176719

14

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 23, 1965, 59-60

TOPIC TAGS: magnetic thin film, computer storage device

ABSTRACT: This Author Certificate presents a device for connecting metallic backings of magnetic films having parallel control conductors to a metallic base, e.g., to the base of memory power units. To simplify the control of mounting the film relative to the control conductors, the film with the backing is mounted on a circular metallic ring (see Fig. 1). The ring has a shoulder around its circumference and is placed in a hole in the base. A flat crimped metallic contact ring is placed between the shoulder and the surface of the base.

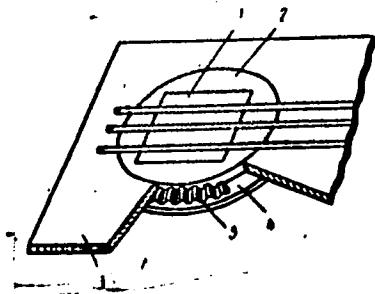
Card 1/2

UDC: 681.14

L 20938-66

ACC NR: AP6002566

Fig. 1. 1 - Film with backing;
2 - metallic ring;
3 - base;
4 - ring shoulder;
5 - contact ring.



Orig. art. has: 1 diagram.

SUB CODE: 09/ SUBM DATE: 16Oct63

PW
Card 2/2

PETROVA, L. G.

"Obtaining Transparent Materials Based on Urea-Formaldehyde Resins." Subj.:
Oct 51, Moscow Order of Lenin Chemicotechnological Institute D. I. Mendeleev

Dissertations presented for science and engineering degrees in Moscow during 1951.

SU: Sum. No. 480, 9 May 55

PETROV, G.S.

PETROV, G.S.; PETROVA, L.G.

[Plastic materials] Plastmassy. Moskva, Gos. izd-vo detskoj
lit-ry Ministerstva prosveshchenija RSFSR, 1953. 76 p. (MIRA 7:?)
(Plastics--Juvenile literature)

"APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240520019-7

L. G. Petrova
Transparent plastics. G. S. Petrov and L. G. Petrova.
Khim. Prom. 1954, 98-100.—Colorless urea- TCFO_2 plastics
were prep'd. in proportion of 1 mole $\text{CO}(\text{NH}_2)_2$:2 mols. C_2FO_2
with NH_3 as a catalyst.

W. M. Sternberg

APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240520019-7"

KAZANTSEVA,R.M., PETROVA,L.G.,NOVIKOVA,L. I.

Unsatisfactory textbook. ("Design and operation of bleaching, dyeing and finishing machinery." S.V.Shmelev. Reviewed by R.M.Kazantseva, L.G.Petrova, L.I.Novikova). Tekst.prom.15 no.9: 47-48 S '55. (MLRA 8:11)

1. Mastera Sosnevskoy otdechochnoy fabriki.
(Textile machinery) (Shmelev,S.V.)

PETROVA, L.G.

BUCHENKOV, Aleksey Nikolayevich; PETROVA, L.G., kandidat tekhnicheskikh nauk,
nauchnyy redaktor; KHOVANSKIY, I.P., tekhnicheskiy redaktor.

[Chemical industries in the national economy of the U.S.S.R.; a bibliography]
Khimizatsiya narodnogo khoziaistva SSSR; rekomendatel'nyi ukazatel' literatury. Nauchnaia red. L.G.Petrovoi, Moskva, Gos.biblioteka
SSSR im. V.I.Lenina, 1956. 57 p.
(MLRA 10:5)
(Bibliography--Chemical industries)

PETROVA, L., kand.tekhn.nauk

Using plastics in the automobile industry. Za rul. 16 no.8:13-14
Ag '58. (MIRA 11:9)

1.Laboratoriya plastmass Gosudarstvennogo soyuznogo ordena Trudovogo
Krasnogo Znameni nauchno-issledovatel'skiy avtomobil'nyy i avtomotor-
nyy institut.

(Automobiles, Plastic)

PETROVA, L.G., inz..

Organizing branch information systems. Mex., 1 avtom.
prcizv. 19 no.5:37-39 May '65. (MILIT. S:1).

"APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240520019-7

WATSON, G.L.; et al., "A Comparison of the Performance of Two New and One Old Method for Determining the Concentration of Chlorophyll in Water Samples," *Anal Chem*, 1962, 34, 103-107.

Synthetic organic chemistry (ed. by R. B. Wiegert), Vol. 1, p. 103.

APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240520019-7"

ZAYTSEVA, Ye.L.; BRAZ, G.I.; YAKUBOVICH, A.Ya.; BAZOV, V.P.; PETROVA, L.G.;
GITINA, R.M.

Synthesis of mixed 2,4,6-trialkyl-1,3,5-triazines and polymer
triazine compounds from iminoesters. Zhur.VKHO 7 no.2:232-233
'62.
(MIRA 15:4)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova.
(Triazine) (Esters)

PETROVA, L.G.

2

S/063/62/007/002/C:2/C14
AO>7/A:26

II. 1215

AUTHORS: Zaytseva, Ye.L., Braz, G.I., Yakubovich, A.Ya., Bazov, V.P.,
Petrova, L.G., Sittina, N.M.

TITLE: Synthesis of mixed 2,4,6-trialkyl-1,3,5-triazines and polymer
triazine compounds from iminoesters

PERIODICAL: Zhurnal vsesoyuznogo khimicheskogo obshchestva imeni D.I.
Mendeleeva, v. 7, no. 2, 1962, 232 - 233

TEXT: In continuation of earlier experiments in which symmetric 2,4,6-
-trialkyl- and 2,4,6-triaryl-substituted 1,3,5-triazines were prepared by cycli-
zation of iminoesters in the presence of catalytic quantities of their salts,
2,4,6-substituted triazines mixed in an analogous way were prepared by combined
cyclization with esters of different iminoacids in the present investigation.
When the paper published earlier was already in press, it was observed, that
P. Schaefer, and G. Peters reported on the same subject [Ref. 2; J. Org. Chem.,
27, 2775 (1962)]. If a mixture of ethyl esters of imino acid and imino butyric
acid are cyclized in the presence of 6 mole% of the chlorohydrate of iminoesters,
a mixture of four substituted triazines is obtained, namely a) R = R' = CH₃ X

Card . /2

Synthesis of mixed

5/63/62/007/002/012/014
A057/A126

where R = positions 4 and 6, and R' = position 2 in the symmetric triazine), b) R = CH₃, R' = n-C₇H₁₇, c) R = n-C₇H₁₇, R' = CH₃, d) R = R' = n-C₇H₁₇. The composition of the mixture depends upon the proportion of the initial iminoesters. By distillation over metallic sodium the pure esters b) and c) could be separated and their characteristics determined. 2,4,6-tris-(c'-carboethoxybutyl)-triazine was synthesized by cyclization of the diethyl ester of mono-imino adipic acid and specified. A structurized polymer was prepared by cyclization of the diethylester of bis-imino adipic acid. The polymer is a yellow, crumbling substance, not soluble in common organic solvents, but swelling in benzene. The same polymer can be obtained from dibenzylester of bis-imino adipic acid. According to the infrared spectrum the polymer contains triazine rings, and apparently C = NH groups. A triazine polymer can be obtained also by combined cyclization of diethyl ester of bis-imino adipic acid and ethyl ester of imino acetic acid. There are 1 table and 3 references.

ASSOCIATION: Fiziko-khimicheskiy institut im. L.Ya. Karpova (Physico-chemical Institute imeni L.Ya. Karpova)

SUBMITTED: December 22, 1961
Card 2/2

X

PETROVA, L.I.

USSR/Processes and Equipment for Chemical Industries.
Processes and Apparatus for Chemical Technology

K-1

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 14180
Author : Fal'kovskiy V.B., Petrova L.I.
Title : Dynamics of Neutralization of Esters with Aqueous
Solution of Soda in Non-Packed Columns
Orig Pub : Zh. prikl. khimii, 1956, 29, No 9, 1453-1456

Abstract : Investigation of the process of neutralization of admixed acetic acid (I) in esters, by aqueous solution of calcined soda in columns containing no packing, under conditions of a stationary and slowly moving continuous layer of soda solution; initial content of I was $y_H = 0.014-0.953$ g mole/liter. Neutralized were technical n-propyl acetate (II), n-butyl acetate, isobutyl acetate, isoamyl acetate (III), cyclohexyl acetate and isoamyl alcohol. The solutions contained 2, 10 and 20% by weight of soda, height of solution layer in the column was 1100-2000 mm,

Card 1/2

- 18 -

PAYOMOV, G.A.; PETROVA, I.I.

Fourth (auricular) tone of the heart and its importance from
the clinical point of view. Trudy Inst. im. N.V. Sklif. 5
no.2;90-100 '62.
(MIRA 18:6)

1. KOSTYUCHENKO, A. D., PETROVA, L. I.
2. USSR (600)
4. Lime
7. Doses of lime in grass and flax crop rotation. Agrobiologija No. 6 1952.
9. Monthly List of Russian Acquisitions. Library of Congress, April 1952.

PETROV, L.I.

M. P. M. . . , A. A.; M. I. . . , A. A.;
1950.

Phosphates

Application of recommended fertilizers to long-fiber flax.
Gov. agron. R. no. 7, 1950.

9. Monthly List of Russian Accessions, Library of Congress, September ² 1950. Unclassified.

ACCESSION NR: AP4043781

S/0190/64/006/008/1440/1441

AUTHOR: Ushakov, S. N., Lavrent'yeva, Ye. N., Podgorskaya, K. S., Petrova, L. I.

TITLE: The synthesis of copolymers of vinylpyrrolidone and vinyl alcohol

SOURCE: Vy'sokomolekulyarnye soyedineniya, v. 6, no. 8, 1964, 1440-1441

TOPIC TAGS: copolymer, vinylpyrrolidone copolymer, vinyl alcohol copolymer, polyvinyl, diazoisobutyronitrile, methanolysis

ABSTRACT: Copolymerization of vinylpyrrolidone with vinylacetate (9:1) was carried out in the presence of diazoisobutyronitrile as the initiator to produce a copolymer from which, by subsequent (6, 8 and 10 hrs.) methanolysis with sodium or potassium methylate in absolute methanol at 20C, four new polymers were prepared with yields of 49.9, 49.64, 48.6 and 44.4% of the theoretical. The copolymers, precipitated with ether from the methanol solution in the form of white flakes, were washed on the filter with ether and dried in a vacuum at room temperature. Specifications for the procedure, the structural component pattern and the content of nitrogen, hydroxyl groups and acetate groups in the polymers are tabulated. The viscosity of the polymers was found to increase with the copolymerization duration. Orig. art. has: 1 table.

Card 1/2

ACCESSION NR: AP4043781

ASSOCIATION: Institut vy*sokomolekulyarny*kh soyedineniy AN SSSR (Institute of High-Molecular Compounds, AN SSSR).

SUB CODE: MT, OC

SUBMITTED: 20Sep63

OTHER: 003

NO REF SOV: 001

Card 2/2

PETROVA, L. I.,

"Effect of Lime and Boron upon the Yield of Long-fiber (Dolgunets) Flax and of Red Clover." (Dissertation for Degree of Candidate for Agricultural Sciences) All-Union Sci Res Inst of Fertilizers, Agricultural Techniques, and Agricultural Soil Science, Torzhok, 1955

SO: M-1036 28 Mar 56

KOSTYUCHENKO, A.D.; PETROVA, L.I.

Importance of the illuvial horizon in the fertility of
sod Podzols [with summary in English]. Pochvovedenie no.2:
42-49 F '57. (MLRA 10:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut l'na.
(Podzol)

USSR/Soil Science - Mineral Fertilizers.

J.

Abs Jour : Ref Zhur - Biol., № 15, 1958, 67960

Author : Kostyuchenko, A.D., Petrova, L.I.

Inst : All-Union Scientific Research Institute of Flax.

Title : Ca⁴⁵ Mobility with Surface Application of Lime.

Orig Pub : Byul. nauchno-tekhn. inform. Vses. n.-i. in-ta l'na, 1957,
No 3, 9-10.

Abstract : A pot experiment with clover conducted in the Flax Institute in the city of Tverzhok, using radioactive calcium (Ca⁴⁵) applied in the form of CaCO₃, demonstrated that when lime is applied to the top soil layer (0-5 cm.) the Ca⁴⁵ penetrates to a depth of 10-12 cm.; mixing the lime with humus lessened both the depth of penetration of C⁴⁵ and its absorption into the clover plants, while adding Fe to the organic-mineral mixture increased both the former and

Card 1/2

- 48 -

BOGOMOLOVA, L.G.; USRAKOV, S.N.; IZMATLOVA, Ye.F.; LAVRENT'YEVA, Ye.M.;
PEKSTER, B.S.; PETROVA, L.I.

Effect of thixotropic gel of isopropylvinyl alcohol on experimental atherosclerosis. Pat. fiziol. i ekspl. terap. i no.: 1174 (2;5) 8-12 Mr-Ap '65.

1. Leningradskiy institut perelivaniya krovi (dir. - doktoret A.A. Belyakov; nauchnyy rukovoditel' - chlen-korrespondent AN SSSR prof. A.N. Filatov) i Institut vysokomolekulyarnykh soedinenii (dir. - chlen-korrespondent AN SSSR prof. M.M. Keten), Leningrad.

PAFOMOV, I.A., kand. med. nauk; IEVLOVA, L.I.

Diagnostic significance of the 'interval' tone in phonocardiography. Kardiologija 3 no. 4:76 S-0 1-3. Riga 1:

• iz Tomskogo gosudarstvennogo universiteta - pr. F. A. Vodkin
Institut imeni N. V. Sklifosovskogo (dir. - nauchnyy sekretar' prof. M. N. Timusov).

FETROVA, Lyubov' Ivanovna; KOPYLOVA, L.F., red.; PENAT'YEV, V.A.,
tekhn. red.

[Soviet trade-unions during the reconstruction period, 1921-
1925] Sovetskie otdeleniya v vostanovitel'nyi period, 1921-
1925 gg. Moskva, Profizdat, 1962. 94 p. (MIRA 15:10)
(Trade unions) (reconstruction)

PETROVA-BRYUKHANOVA, L. K., CAND MED SCI, "CHARACTERISTICS
OF EXTERNAL RESPIRATION IN PRACTICALLY HEALTHY CHILDREN, AGED
FROM BIRTH TO 14 YEARS, MANIFESTED BY THE METHOD OF PNEUMO-
GRAPHY." KUYBYSHEV, 1960. (KUYBYSHEV MED INST). (KL, 2-61,
219).

-269-

ETROV, I.I.

Blind

Eye morphology in children with tubercular orbititis. Translated from English.
Pediatrics, No. 3, 1961.

9. Monthly List of Russian Accessions. Library of Congress, 1951-1953, Incl.

KOMONKOV, P.F.; PETROVA, L.L., kand. biol. nauk

Melon variety 121/49 developed by vegetative hybridization.
Agrobiologiya no. 3:146-149 My-Je '58. (MIRA 11:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy selektsionno-geneticheskiy
institut, g. Odessa.
(Melons--Varieties)

PETROVA, L.M. (Moskva)

Combined therapy in exudative pleurisy with corticosteroid hormones
and antibacterial preparations. Klin.med. 38 no.10:35-39 O '60.
(MIRA 13:11)

1. Iz 3-y kafedry terapii (zav. chlen-korrespondent AMN SSSR
prof. I.A. Kassirskiy) Tsentral'nogo instituta usovershenstvo-
vaniya vrachey.

(ACTH) (CORTISONE) (PLEURISY)

KASSIRSKIY, I.A., prof.; PETROVA, L.M.

Therapeutic use of the corticosteroid hormones. Vest. AMN SSSR 14
no.5:10-27 '59.
(MIRA 14:5)

1. Chlen-korrespondent AMN SSSR (for Kassirskiy).
(CORTICOSTEROIDS)

LOPUKHINA, Yelena Moiseyevna; SOMIKHINA, Galina Sergeevna; PETROVA,
L.M., red.; LARIONOV, G.Ye., tekhn. red.

[Designing of single-phase and three-phase asynch. electric
micromotors] Raschet ssinkhronnykh mikrodvigatelei odnofaznogo
i trekhfaznogo toka. Moskva, Gos. energ. izd-vo, 1961. 312 p.
(MIRA 14:5)

(Electric motors, Induction)

MEYEROV, Mikhail Vladimirovich; KULEBAКIN, V.S., redakter; PETROVA, L.M.,
redakter; MAKHNI, Ye.V., tekhnicheskiy redakter.

[Introduction to the dynamics of automatic control of electric
machines] Vvedenie v dinamiku avtomaticheskogo regulirovaniia
elektricheskikh mashin. Moskva, Izd-vo Akademii nauk SSSR, 1956.
417 p.
(Automatic control) (Electric machinery)

ASATURYAN, A.Sh.; RASHCHEPKIN, K.Ye.; PETROVA, L.N.

Pipelines under stress. Izv. vys. ucheb. zav.; neft i gaz no.8:97-105
'58. (MIRA 11:10)

1. Moskovskiy neftyanoy institut im. akad. I.M. Gubkina i Bashkirskiy
nauchno-issledovatel'skiy institut neftyanoy promyshlennosti.
(Pipelines) (Strains and stresses)

PETROVA, L. N.

Unusual foreign body of the upper respiratory tract. Vest. oto-rin.17 no.4:74-75 Jl-Ag '55. (MLRA 3:10)

1. Iz Leningradskogo nauchno-issledovatel'skogo instituta po boleznyam ukha, gorla, nosa i rechi (dir.-prof. I.A. Lopotko, nauchnyy rukovoditel' deystvitel'nyy chlen AMN SSSR prof. V.I. Voyacheck)

(RESPIRATORY TRACT, foreign bodies,
postop. after adenoidectomy)

(FOREIGN BODIES,
resp. tract, postop. after adenoidectomy)

(ADENOIDS, surgery,
postop. resp.tract for body)
(SURGERY, OPERATIVE, complications,
postop. for.body in resp.tract after adenoidectomy)

1/1/86 VV, L.N.

AT: MA - 20

Collecting blood for general analysis at the patient's home on 1/1/86
date # no 0.57 by-je 102. (M 1)

iz kliniko-diagnosticheskoy laboratorii Gorodskoy kliniki po
zdravotvorchestvu (lekaruy vrah Yu. Martynov), Sverdlovsk
(Sverdlovsk - CONSULTATION AND INSPECTION)

Estimation of aniline in the air. G. V. PIGERYKOV¹ AND L. N. PETROVA² *Akh. was. Forsch.-Sekt. Leningrad Abt. Arbeitsschutzes* I, Pt. 2, 3107-3110(1927).—The air is passed through a CaCl₂ tube 20 cm long which is fitted with 5.6 g. of glass wool containing 10% H₂SO₄. In some experiments the Tischenko type of flask was used. The detection of the aniline absorbed by the H₂SO₄ was accomplished by the method of Lehmann. The use of the CaCl₂ tube instead of the Palmer tube or the Tischenko flask has the advantage of allowing a rapid passage of the aniline-saturated air. It is claimed

100

7

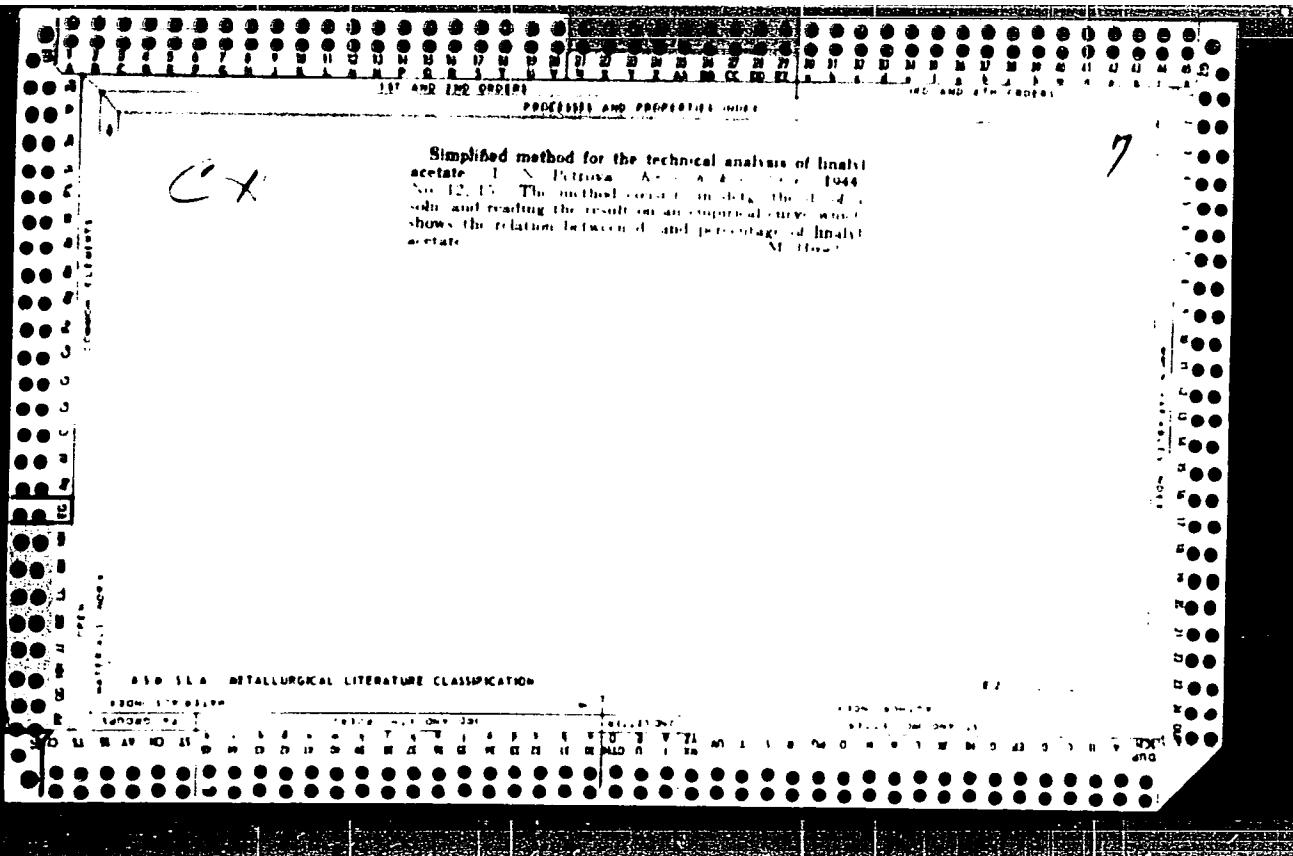
ASA SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240520019-7"

Determination of anthranilic acid. L. N. Petrova and
N. Nikolaev. *J. Applied Chem. (U. S. S. R.)* 8, 933-4
(1955). Twenty ml. of 0.5 N Cu(OAc)₂ is added to a soln.
contg. 0.2-0.3 g. of anthranilic acid, at not more than 10°.
The suspension of Cu salt is filtered after 5 min., the ppt.
is washed with cold H₂O, and excess of Cu⁺⁺ is decd. in the
nitrate + washings. B.C.A.

ASTORIA METALLURGICAL LITERATURE CLASSIFICATION



PETROVA, I. V.

Cry. Tech. Sci.

Dissertation: "An Empirical Study of the Structure of the English Verb System," submitted by V. L. Williams.

50. Macromia illinoiensis, Macfie, 1907 (Fig. 10-12).

REPRODUCED BY MICROFILM
SEARCHED INDEXED SERIALIZED FILED

Determination of bromine numbers of unsaturated carbonyl compounds. I. N. Petrov. *Zhur. Prakticheskoi Khim.* (J. Applied Chem.) 22, 122-77(1949). The determination of Br no by Kaulmann and Borch's method (cf. 1-23, 1107) is suitable for unsatd. aldehydes and acids, as well as ketones, which have the unsatn. in the α -position if the α -keton is replaced by titration of Br excess with an alk. soln. of anethole. The method was applied to the rate of reaction of Br no with AnH to form cinnamaldehyde. The results are shown graphically. A similar study was made of isomerization of pseudomonone into a ionone in 60% H_2SO_4 . It was found that in the 1-10 min. the Br no drops below 40; this indicates the formation of a hydrate isolated in crude state or (vs. excess oil), which then is transformed into the final product with a rapid rise of Br no during 2 hrs. Procedure: To 0.1-0.2 g. sample add 25-50 ml. 0.1 N Br soln. in dry MeOH said with NaBr. Let stand in the dark for a necessary period up to 12 hrs. with occasional stirring with pseudomonone, and titrate the excess Br no with 0.1 N soln. 0.1 N in MeOH, standardized by a series of standard dilutions of Br soln. in comparison with a standard of known titer. G. M. L. (Reviewed)

10

CA

Benzylation of aromatic hydrocarbons in the presence of activated clay I. N. Petrova and O. V. Shvarts (Synthetic Nat. Perfum. Inst., Moscow). *Zhur. Obshchei Khim.* (J. Gen. Chem.) 20, 2168-72 (1950). Refluxing 20 g. PbCl_2OH and 200 g. CaH_2 1 hr. with 20 g. askanite gave 33 g. H_2O and a range of products, b_4 125-275° (with 74 g. residue), from which were isolated about 50 g. Ph_2Cl_2 and about 22 g. $1,3-(\text{PhCH}_2)_2\text{CaH}_4$, m. 78°. Similar reaction with MePb gave about 67 g. *1-methyl-4-benzylbenzene*, b_4 278-9°, n_D^{20} 1.5710, d_4^{20} 0.9058, and 64.7 g. *dibenzylidene*, b_4 225-30°, n_D^{20} 1.6019, d_4^{20} 1.0482. *m-Xylene* similarly gave *1,3-dimethyl-5-benzylbenzene*, b_4 130-2°, n_D^{20} 1.5700, d_4^{20} 0.9931, while *cumene* gave *1-isopropyl-4-benzylbenzene*, b_4 147-8°, n_D^{20} 1.5570, d_4^{20} 0.9697. *Anisole* similarly gave *1-methoxy-4-benzylbenzene*, b_4 153-4°, n_D^{20} 1.5780, d_4^{20} 1.0530, and a small amt. of dibenzylated product. PhMeCOH similarly gave in a reaction with PhMe small amt. of *1-phenyl-1-p-tolylethane*, b_4 151-6°, n_D^{20} 1.5630, d_4^{20} 0.9885, while with *m-xylene*, some *1-phenyl-1-m-xylylethane*, b_4 151-60°, n_D^{20} 1.5590, d_4^{20} 0.9801, was formed. Linool with CaH_2 gave H_2O elimination within 20 min. of refluxing, but only condensation of the alc. appeared to take place. PhMeCOH with CaH_2 gave apparently *3,5-diphenyl-2-hexene*, b_4 164-6°, n_D^{20} 1.5076, d_4^{20} 0.9700. Cyclohexylcarbinol, $\text{PbCl}_2\text{CH}_2\text{OH}$, CaH_2OH with MePb do not lose H_2O , while allyl alc. reacts with MeOPb but not with MePb or CaH_2 .
G. M. Kosolapoff

1951

"APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240520019-7

JO

Benzylation of aromatic hydrocarbons in the presence of
activated clay. L. N. Petrova and D. V. Savchenko. In: Chem.
Tech. U.S.S.R., No. 1, 1978, p. 20-22. (UDC 547.585.3'22.010.221.010.55) English translation by W. E. M.

APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240520019-7"

7

CP

Determination of ketones by an oxidation method
E. N. Novikova and L. N. Petrya, *Zhur. Prilob. Khim.*
J. Applied Chem. **23**, 1136-1270 (1950). The general principles of the oxime formation are discussed in relation to
structure of the ketones. Many ketones can be dried by
this method; ketones with a mobile α,β -group adjacent to
 $\text{C}=\text{O}$ are converted instantly at room temp., while those with
conjugated ethylene link require heating. Alkyl esters,
hydrocarbons, and acids do not interfere. Phenol esters
may interfere by formation of hydroxamic acids. The pro-
cedures are: to 5.0 millimoles of ketone add 20 ml. 0.5 N
 HgONH_2HCl and immediately titrate the HCl with 0.5 N
NaOH in the presence of bromophenol blue; for less reactive
ketones, after addition of the reagent, add 10 ml. 0.5 N KOH,
heat 1 hr. at 100°, titrate with 0.5 N HgONH_2 , and allow for a
blank.

G. M. Kosolapoff

"APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240520019-7

A

7

Determination of ketones by the oxidation method
E. N. Novikova and L. N. Petrova *J. Applied Chem.*
U.S.S.R. 23, 1413-17 (1950) (Engl. translation). See C. I.
46, 6941a B. R.

APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240520019-7"

BUBNOV, Sergey Nikolayevich [deceased]; MILANOVSKIY, Ye.Ye., red.;
PETROVA, K.A., red.; YERMAKOV, M.S., tekhn.red.

[Basic problems in geology] Osnovnye problemy geologii. Pod
red. E.E. Milanovskogo. Moskva, Izd-vo Mosk.univ., 1960. 232 p.
(MIRA 13:5)
(Geology)

BREUSOV, O.N.; PETROVA, L.M.; LYANDUSOV, R.G.; KORSHUNOV, B.G.; DERBIN, M.M.

Apparatus with continuous action for the chlorination of high-melting
metals. Prom.khim.reak. i osob. chist. veshch. no.2:46-48 '63.
(MIRA 17:2)

KASSIRSKIY, I.A; IVANOV, K.P.; RYZHKOVA, N.P.; KOZHUKHOVA, V.K.;
PETROVA, L.M.; TARON, M.F. (Moskva)

Rational therapeutic-preventive system in the treatment of
rheumatism. Klin.med. 38 no.3:24-34 Mr'60. (MIRA 16:7)

1. Iz III kafedry terapii TSentral'nogo instituta urovershen-
stvovaniya vrachey (zav.-chlen-korrespondent AMN SSSR prof.
I.A.Kassirskiy).
(RHEUMATIC HEART DISEASE)

PETROVA, L.N.

Thermal conductivity of ferromagnetic metals. *Fiz. tver. tela* 5 no.6:1682-1686 Je '63. (MIRA 16:7)

1. Ural'skiy politekhnicheskiy institut imeni Kirova,
Sverdlovsk.

1-18002-63 EWP(r)/EPF(c)/ENT(l)/EPF(n)-2/EWP(g)/ENT(m)/BDS AFFTC/ASD/
SSD Pr-4/Pu-4 JD

ACCESSION NR: AP3001291

S/0181/63/005/C06/1682/1686

AUTHOR: Petrova, L. N.

71

TITLE: Thermal conductivity of ferromagnetic metals⁴

70

SOURCE: Fizika tverdogo tela, v. 5, no. 6, 1963, 1682-1686

TOPIC TAGS: thermal conductivity, ferromagnetic metal, electron scattering, phonon, electron spin

ABSTRACT: Density matrices were used to compute the thermal conductivity of ferromagnetic metals in association with differences in energies of electrons having different spins. Computations were made for the case of electron scattering at phonons. The author compared her results with experiments conducted near the critical temperature. The temperature dependence of thermal conductivity (as determined by the proposed technique) when compared qualitatively with observed values was found to be of an order near normal electronic thermal conductivity of the nontransitional metals. "In conclusion I express my deep thanks to Ye. A. Turov and Yu. P. Irkhan for reading the manuscript and for valuable comments." Orig. art. has: 1 figure and 18 formulas.

ASSN: Ural Polytechnical Institute.

Card 1/2

BELOV, V.N., doktor khimicheskikh nauk, laureat Stalinskoy premii; DIL'MAN, T.A., inzhener; KROKHIN, N.G., kandidat tekhnicheskikh nauk; PETROVA, L.N., kandidat khimicheskikh nauk; SIVOVERSOVA, N.I., kandidat khimicheskikh nauk; RODIONOV, Vladimir Mikhaylovich, akademik, redaktor.

[Chemistry and technology of aromatic substances] Khimiia i tekhnologija dushistykh veshchestv. Moskva, Gos. izd-vo Ministerstva legkoi i pishchevoi promyshl., 1953. 299 p. (MLRA 7:1)

(Essences and essential oils)

PETROVA, L. N.
original

✓2474. Determination of primary alcohols. L. N. Petrova (*J. anal. Chem., USSR*, 1953, 8, 61-62).—Acetylation at room temp., for 5 min. to 2 hr., depending on the alcohol, is satisfactory for determining primary alcohols. G. S. SMITH.

8-31-54

(1)

(BA-C pt. q : 2474 '53)

RECEIVED - 1

(3)

C.A. V-48

Jan 10, 1957

Chemical & Industrial
Constituents of Perfumes

Determination of the composition (aromatic principle) content of perfumes and eau de Colognes. L. N. Petrova, E. N. Novikova, E. A. Simanovskaya, and A. P. Levdkova. *Masloboino-Zhirovaya Prom.* 18, No. 7, 26-7 (1955).—Two methods are described. One is based on the extn. of the aromatic principle with CHCl₃ and the removal of the solvent as an azeotropic mixt. with MeOH. This method can be used for the analysis of all perfume-contg. liquids. In the 2nd method the EtOH and H₂O are removed directly as an azeotropic mixt. with C₆H₆. It can be used only for the analysis of liquids contg. less than 10% of H₂O. Vladimir N. Krukovsky

All-Union Sci. Res. Inst. Synthetic & Natural
Essential Oil Products.

PETROVA, L.N.

U.S.S.R.

Thiocyanation of unsaturated compounds. I. Thiocyanation of unsaturated hydrocarbons and heteroaromatics
A. A. Gerasimova, L. N. Petrova, and V. M. Kostomyan
Zhur. Obshch. Khim., 25, 1813-1820 (1953). The thiocyanation reaction differs from halogen addition by its very much greater selectivity. It permits dear. of unsatd. links in cases which give rise to side reactions in bromination (silico-hydrocarbons and bicyclic terpenes). For quant. dear. of double bonds the thiocyanation is limited to substances in which the reaction is fairly rapid (24 hrs. or less). It is not satisfactory for compds. contg. a double bond between primary and secondary C atoms. In 1-methene, biallyl, and 2,10-dimethylidodecadiene the addn. of (CNS) to 1 double bond hinders the next step of addn. The following list of thiocyanations was obtained by the use of (CNS) soln. in AcOH prep'd. by reaction of Br on Pb(CNS) in AcOH. The following percentages of the theoretical thiocyanate number were obtained 5 min., 1 hr., and 24 hrs. after mixing the components: α -pinene, 99.7, 102.8, 107.5; β -pinene, 99.9, 103.7, 143.6; α -caren, 97.4, 124.8, 135.8; cyclohexene, 12.0, 40.05, 90.9; 1-heptene, 12.4, 38.8, 55.0; 4,4-dimethyl-1-pentene, 4.1, 23.0, 49.4; limonene, 30.3, 50.4, 87.7 (95.8 after 4 days); biallyl, 0, 13.3, 54.0 (78 in 7 days); 2,10-dimethylidodecadiene, 5.8, 31.1, 97.8 (84 in 2 days). Biallyl gave after 24 hrs. of reaction an oil, whose compn. was $C_9H_{16}S_2N_2$; after 1 week of reaction a yellowish C_9H_{16} , S_2N_2 , decomp. 167-9° (from $CHCl_3$), was obtained in un-

stated yield. The thiocyanation of α -enoic derivatives gave the following percentages (5 min., 1 hr., 1 day): Me $SiCH_2CH_2CH_2CH_3$, 93.3, 93.0, 93.1; Et $SiCH_2CH_2CH_3$, 50.4, 96.4, —; t -Bu $SiCH_2CH_2CH_3$, 93.1, 97.3, —; Ph $SiCH_2CH_2CH_3$, 97.3, 99.3, —; Me $SiH(CH_2CH_2CH_3)_2$, 70.8, 93.7, —; Me $Si(CH_2CH_2CH_3)_2$, 91.6, 95.0, —; t -Bu $SiCH_2CH_2CH_2CH_3$, 0.9, 37.7, 90.6; Et $SiCH_2CH_2CH_2CH_3$, 5.2, 31.2, 93.0; Me $PhSiCH_2CH_2CH_2CH_3$, 13.8, 24.1, 90.2. II. The influence of oxygen-bearing functional groups on the thiocyanation reaction. *Ibid.* 1813-22. The presence of an O-bearing group (OH , CO , CO_2H) lowers the rate of addn. of (CNS) to a double bond. Adjacent location of the O-bearing group almost stops the addn., but a more remote location shows a much smaller influence. Addn. of (CNS) to inactd. ketones is complicated by addn. to the enolic form of the ketones. The following thiocyanate numbers (in percent thiocyanation) are given for the various compds.: for 5 min., 1 hr. and 1 day of reaction: $CH_3CH_2CH_2OH$, 1.3, 9.6, 10.4; $PhCH_2CH_2OH$, 1.6, 6.7, 10.3; $MeCH_2(OH)CH_2CH_3$, 1.4, 10.5, 50.2; $HOC(CH_2CH_2CH_3)_2$, 1.2, 11.45, 54.3; citronellol, 93.2, 99.6, 100.1; geraniol, 10.5, 50.8, 51.7 (addn. takes place at 1 double bond; calcd. on this basis the values are 92.6, 101.7, 103.3); $PhCH_2CHO$, 0, 0, 0; PhC_6H_4CHO , 0, 0, 0; β -iso-Pr CH_2CHO , 0, 2.2, 20.2; citronellal, 85, 100, 100.2; citral, 35.8, 50.2, 51.8;

(after)

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A. A. Bugorkovii.

C₆H₅CH₂CHCO₂H, 0, 0, 1.8; PhCH₂CHCO₂H, 0, 0, 0;
 C₆H₅CH₂CHCO₂Me, 0, 0, 1.0; CH₂CHCN, 0, 0, 0;
 CH₂CHCH₂CO₂H, 1.2, 2.4, 6.9; 2-oxahydronaphthalyl-acetic acid, —, 2.2, 0.2; CH₂CHCH₂CH₂CO₂H, 0.7, 6.7,
 63.2; citroellic acid, 57.5, 98.5, 98.4; geranic acid, 30.1,
 43.0, 50.0; geranic acid nitrile, 91.7, 47.9, 50.9; petroselinic acid, 34.6, 30.8, 99.4; mesityl oxide, 9.2, 3.2, 14.3;
 2-methyl-4-hepten-6-one, 1.8, 3.5, 6.4; PhCH₂CHAc, 0, 0,
 5.7; α -ionone, 0, 4.0, 22.7 (addn. at one double bond only);
 methylinone, 6.4, 15.1, 35.2 (addn. at one double bond only);
 iso-methylinone, 5.2, 11.5, 24.6 (addn. at 1 double bond only);
 isopulegone, 10.9, 31.0, 98.5; α -ionone, 0, 1.7, 0.2
 (addn. at 1 double bond); carvone, 2.9, 12.6, 58.6 (addn.
 at 1 double bond); 4-methyl-6-hepten-2-one, 102, 170,
 177.2; CH₂CHCH₂CH₂Ac, 5.8, 20.2, 110.1; pseudolimonene,
 98.5, 103.1, 108.2 (addn. at 1 double bond); iso-methyl-pseudolimonene (Me₂C₂CHCH₂CH₂CMe₂:CHCH₂CMe₂Ac), 99,
 102.1, 116.2; CH₂CHCH₂OH, 0.98, 9.00, 19.47; PhCH₂
 CHCH₂OH, 1.57, 6.7, 19.33. Mixts. of geranic and citroellol can be analyzed by detn. of Br no. and thiocyanate no. after running the reactions for 1 hr.; the % citroellol ($100x - 208z$)/104, where x is Br no. of the mixt., z = % geraniol and 104 is the Br no. of citroellol; the difference between the Br no. and thiocyanate no. (A) is given by $x - 100A/104$. III. Thiocyanation of the double bond of a

side-chain of methoxy- and methylendoxy compounds of the aromatic series. *Ibid.*, 18, 22-5.—Introduction of Me₂O or CH₂O group into an aromatic ring affords the ease of thiocyanation of a double bond in a side chain that is conjugated with the double bond of the aromatic ring. The following degrees of thiocyanation were attained at 5 min., 1 hr., and 24 hrs. (cf. preceding abstr.): PhCH₂CH₂CH₂—, 2.4, 58.3; PhCH₂CH₂CH₂CO₂H, 3.3, 77, 59.0; anethole, 35.8, 99.4, 100.2 (the product was isolated in this instance and its formula was found to be C₉H₁₀O₂N₂); saffrole, 1.5, 14,
 82.0; isosaffrole, 99.9, 100.6; eugenol, 3.7, 36.4; isoeugenol, 98.3, 99.8, 101.0; PhCH₂CHAc, —, —, 5.7; ρ -MeOC₆H₄CH₂CHAc, 2.4, 20.7, 100; PhCH₂CH₂OAc, —, —, 5.8; ρ -MeOC₆H₄CO₂H, —, 9.8, 34.1; phenoxyacrylic acid, —, 2.1, 18.9. The following method for analysis of mixts. of isoeugenol and isosaffrole or anethole is suggested; the sample (0.1 g.) is treated with 20 ml. CNS soln. and after 5 min. the mixt. is treated with 10 ml. 10% KI and the liberated iodine is titrated with Na₂S₂O₃. The percent (A) of isoeugenol, isosaffrole, or anethole is calculated by $A = 60(a-b)/17$, where a is the vol. of 0.1N Na₂S₂O₃ used in titration of blank run, b the vol. used for titration of the mixt., s is the wt. of the sample, and P is the act. thiocyanate no. Thus saffrole-isosaffrole and eugenol-isoeugenol mixts. can be analyzed. G. M. Kosolapoff

BUGORKOVA, A.A.; PETROVA, L.N.; RODIONOV, V.M.

Rhodanation of unsaturated compounds. Part 2. Effect of oxygen-containing functional groups. Zhur. ob. khim. 23 no.11:1813-1822 N '53. (MLB 6:11)

1. Vsesoyuznyy Nauchno-issledovatel'skiy institut sinteticheskikh i natural'nykh dushistykh veshchestv. (Thiocyanation) (Hydrocarbons)

BUGORKOVA, A.A.; PETROVA, L.N.; RODIONOV, V.M.

Rhodanation of unsaturated compounds. Part 3. Rhodanation of the double bond of a side chain in methoxy- and methylenedioxy compounds of the aromatic series. Zhur.ob.khim. 23 no.11:1822-1825 N '53. (MLRA 6:11)

1. Vsesoyuznyy Nauchno-issledovatel'skiy institut sinteticheskikh i natural'nykh dushistykh veshchestv. (Thiocyanation) (Aromatic compounds)

BUGORKOVA, A.A.; PETROVA, I.N.; RODIONOV, V.V.

Thiocyanation of unsaturated compounds. Report No. 1. Thiocyanation
of unsaturated hydrocarbons and silicohydrocarbons. Prudy Vsesil'skogo
Instituta Khimicheskogo Poligrafiya, No. 2:66-67 '54.
(Hydrocarbons) (Silicon organic compounds) 'Thiocyanation'

YGORKOVA, A.A.; PETROVA, I.N.; ROLIONOV, V.M.

Thiocyanation of unsaturated compounds. Report No.2: Influence
of oxygen-bearing functional groups on the thiocyanation reaction.
Trudy VNIISNDV no.2:68-69 '54. (MLFA 10:7)
(Functional groups) (Thiocyanation)

Po 1 *revised* *b7c*
BUGORKOVA, A.A.; PETROVA, L.N.; RODIONOV, V.M.

Thiocyanation of unsaturated compounds. Report No.3: Thiocyanation of the double-bond of a side-chain of methoxy and methylenedioxy compounds of the aromatic series. Trudy VNIISNOV no.2:70 '58.
(VIRA 10:7)

(Furanone) (Safrole) (Thiocyanation)

PETROVA, L.N.; BOVIKOVA, Ye.N.; LEVNIKOVA, A.P.

Quantitative determination of linalool. Prudy VEDIISNDV n-2:71-24
'54. (MLAA 10:7)
(Linalool)

AID P - 2271

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 16/19

Authors : Petrova, L. N. and Ye. N. Novikova

Title : Polarographic determination of aldehydes as
2,4-dinitrophenylhydrazone

Periodical: Zhur. prikl. khim., 28, no.2, 219-221, 1955

Abstract : Description of a method based on the conversion of
aldehydes to 2,4-dinitrophenylhydrazone is given.
One table, one diagram, 2 references (1 Russian: 1948).

Institution: All-Union Scientific Research Institute of Synthetic
and Natural Odorous Substances

Submitted : S 15, 1953

PETROVA, L. N.

U.S.S.R.

Polarographic determination of aldehydes as 2,4-dinitrophenylhydrazenes. L. N. Petrova and E. N. Novikova:
J. Appl. Chem. USSR, 1955, 28, 302 (1955) (Engl. translation).
Sci. C. I., 49, 7349A.

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Petrova, L.N.

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✓ Determination of ketones by the oxidation method.
L. N. Petrova and E. N. Nuzikova. Zhur. Priklad. Khim. 28, 2055; cf. C.A. 60, 6041a. Ketones with double bonds conjugated with the CO group or those with 2 aryl groups react by addn. with NH_3OH at the double bond under conditions specified in the previous paper. The following method is, therefore, used for their detn.: To 4-5-millimole sample in a flask with air condenser add 20 ml. 0.5*N* $\text{NH}_3\text{OH}\cdot\text{HCl}$ in 60% EtOH and heat on the water bath 2 hrs.; cool and titrate to neutral reaction with 0.5*N* NaOH in EtOH in presence of bromophenyl blue, then heat 0.5 hr. longer and titrate again if necessary. The vol. of NaOH soln. used for titration in ml. multiplied by the mol. wt. of the ketone and divided by 20 times the sample wt. gives the content of the ketone in the sample. Results are usually within 0.5% with a variety of unsatd. ketones, but dibenzacetone and its analogs gave results which were 4-5% too high. G. M. Kosolapoff

R.M. 22

PETROVA, L. N.

Determination of ketones by the oxidation method. 1
L. Petrova and E. N. Novikova — *J. Appl. Chem. U.S.S.R.*
19, 817-822 (1956) (English translation). — See *C.A.*, 50,
10611e. *B. M. R.* *Chem* 2

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Petrova, L. N.

Determination of alcohol by the dehydration method.
L. N. Petrova and E. N. Novikova (All-Union Sci. Research Inst. Synthetic and Natural Resinous Oils, Moscow).
Zhur. Anal. Khim., 12, 411-14 (1957). — The method is based on dehydration of alc. by using toluenesulfonic acid as catalyst and titrating the liberated H₂O with the Fisher reagent. A sample is dissolved in toluene and an aliquot of the soln. is refluxed for 5 min. in the presence of the catalyst. After cooling, the liberated H₂O is titrated with the Fisher reagent. A control destr. is run on the solvent and reagent. On a separate sample, the moisture content of the alc. is detd. This method is suitable for tertiary alc. as well as readily dehydrating primary and secondary alc. in the presence of satd. primary and secondary alc. — M. Hoseh

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UE4

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PETROLEUM

Determination of acetic anhydride. B. N. Novikova and
L. N. Petruna (All-Union Inst. Synthetic and Natural
Rubber (USSR), Moscow). Zhur. Anal. Khim. 12, 831-3 (1957).

The method consists of hydrolyzing Ac_2O in a known vol.
of H_2O and titrating the excess H_2O with Fischer (cf. C.A.
29, 6532) reagent. The hydrolysis is catalyzed either with a
base (pyridine) or an acid (H_2SO_4). M. Hesch

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BUGORKOVA, A.A.; PETROVA, L.N.; POLYAKOVA, K.S.; MELESHKINA, G.V.

Quantitative determination of α, β -unsaturated aliphatic acids. Trudy VNIISNDV no.4:73-76 '58. (MIRA 12:5)
(Unsaturated compounds)
(Acids, Fatty)

PETROVA, L. N.; NOVIKOVA, Ye. N.

Quantitative determination of ketones by the oximation method.
Trudy VNIISNDV no.4:76-78 '58. (MIRA 12:5)
(Ketones) (Oximes)

PETROVA, L. N.; NOVIKOVA, Ye. N.

Determination of aldehydes by the oximation method. Trudy
VNIISNDV no. 4:78-82 '58. (MIRA 12:5)
(Aldehydes) (Oximes)

PETROVA, L.N.; NOVIKOVA, Ye.N.

Polarographic methods of analysis for controlling the processing of coriander oil. Trudy VNIISNDV no.4:189-194 '58.

(MIRA 12:5)

(Citral) (Polarography) (Essences and essential oils)

NOVIKOVA, Ye.N.; PETROVA, L.N.

Determining alcohol and water content in perfume and cosmetic liquids and in food essences. Masl.-zhir.prom. 24 no.11:20-22 '58.
(MIRA 12:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskikh i natural'nykh dushistykh veshchestv.
(Essences and essential oils--Analysis) (Ethyl alcohol)
(Water)

5(3)

AUTHORS: Petrova, L. N., Novikova, Ye. N., Skvortsova, A. B. SOV/75-14-3-16/23

TITLE: Determination of Carbonyl Compounds by the Reaction With
Amines (Opredeleniye karbonil'nykh soyedineniy reaktsiyey s
aminami)

PERIODICAL: Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 3, pp 347-351
(USSR)

ABSTRACT: The determination of aldehydes was carried out by addition of a solution of o-toluidine or aniline in benzene and titration of the water formed in consequence of the reaction with the reagent of K. Fischer (Ref 7). In aromatic aldehydes which react quickly and quantitatively with o-toluidine the titration can be performed directly in the reaction solution. Some aliphatic aldehydes react but slowly with amines. In this case the water formed is distilled-off with benzene and determined in the distillate with the reagent of K. Fischer. This reagent is also used for the titration of water which may have been present in the aldehyde already before. There are 5 tables and 8 references, 3 of which are Soviet.

Card 1/2

Determination of Carbonyl Compounds by the Reaction With Amines
SOV/75-14-3-16_2

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskikh
i natural'nykh dushistykh veshchestv, Moskva
(All-Union Scientific Research Institute of Natural and
Synthetic Perfumes, Moscow)

SUBMITTED: January 11, 1958

Card 2/2

5 (2)

AUTHORS:

Bugorkova-Zelenetskaya, A. A.,
Petrova, L. N.

SOV/75-14-3-28/29

TITLE:

Determination of Halogen in Halogen-organic Compounds (K voprosu
ob opredelenii galoida v galoidorganicheskikh soyedineniyakh)

PERIODICAL:

Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 3,
pp 381-382 (USSR)

ABSTRACT:

The method of A. K. Ruzhentseva and V. V. Kolpakova (Ref 5)
was investigated, according to which chloro-substituted organic
compounds are reduced by nickel-skeleton catalyst in alkaline
solution. Analysis errors were found in the determination
of chlorine in aliphatic chloro-substituted acids (7-Cl-
heptanoic acid, 9-Cl-nonanoic acid) as well as in benzal
chloride and cuminal chloride, if water with ethyl alcohol
was used as solvent. The results could however be improved
by using higher boiling alcohols (ethylene glycol). As the
reaction was assumed to be to a lesser degree a reduction
by hydrogen than a saponification by alkali the experiments
were continued with 0.5-n potassium lye in a 50 % solution
of ethylene glycol in water and, as can be seen in table 2.
exact analyses were obtained. The method is however not

Card 1/2

Determination of Halogen in Halogen-organic Compounds SOV/75-14-3-29 '23

applicable to all organic chlorine compounds. In chloro benzene, for instance, the chlorine can be determined only by reduction with hydrogen (on the nickel catalyst). There are 2 tables and 6 references, 3 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskikh i natural'nykh dushistykh veshchestv, Moskva (All-Union Scientific Research Institute of Synthetic and Natural Perfumes, Moscow)

SUBMITTED: May 22, 1958

Card 2/2

PETROVA, L.N., kand.khim.nauk; NOVIKOVA, Ye.N.

New methods for determining the alcohol content in the
essential oils of geranium, rose, and citronella. Masl.-zhir.
prom. 25 no.8:21-23 '59. (MIR 12:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskikh i natural'nykh dushistykh veshchestv.
(Essences and essential oils)
(Alcohols)